



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,523	01/07/2002	Kyung-Hyun Kim	SAM-0262	9107

7590 02/17/2004

Steven M. Mills
MILLS & ONELLO LLP
Eleven Beacon Street, Suite 605
Boston, MA 02108

EXAMINER

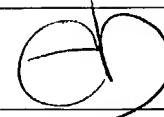
GOUDREAU, GEORGE A

ART UNIT PAPER NUMBER

1763

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 10/120,654	Applicant(s) BARTLEY ET AL. 	
	Examiner Yewebdar T Tadesse	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 36-55 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26,27 and 68-72 is/are allowed.
- 6) ☒ Claim(s) 1-21, 23-25, 28-34, 56-59, 61-67, 73-78 is/are rejected.
- 7) ☒ Claim(s) 22,35 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09122002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-35 and 56-78, drawn to an apparatus for treating textile articles, classified in class 118, subclass 313.
 - II. Claims 36-55, drawn to a method for treating textile articles, classified in class 427, subclass 242.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another materially different process, such as applying dye or cleaning solution to textiles or applying liquid material to wooden or plastic articles.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. MacCord on October 20, 2003 a provisional election was made with traverse to prosecute the invention of I, claims 1-35

Art Unit: 1734

and 56-78. Affirmation of this election must be made by applicant in replying to this Office action. Claims 36-55 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-9, 11, 15, 17, 20-21, 24, 28, 62-63 and 65-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Pasad et al (US 5,461,742). With respect to claims 1,9, 11 and 17, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the

Art Unit: 1734

horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid to the drum as the textile articles are tumbled, and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130 and controlled by control valves and measured by gauges) to contain and dispense a predetermined volume (amount of treatment agent) through the nozzles onto the garments tumbling in the drum as the drum is rotated, wherein the predetermined volume is sufficient to impregnate the garments with the mixture without residual liquid mixture (see example 1, claims 8 and 14 for garments treated with predetermined quantity of liquid without creating residual liquid in the bottom of the drum). Pasad et al's dispenser also includes a sealable opening (liquid impermeable seal in the space of the bearing to pass the conduits 105, 106, 129, 130 for treatment agent through. Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture. As to claim 2, Pasad et al discloses (see column 3, lines 25-28, column 4, lines 49-65) nozzle means for generating a fine mist or fog of liquid solutions inside the drum. As to claim 4, Pasad et al discloses (see Fig 3 and column 7, lines, 20-25 and 42-45) a dispenser including a passage (conduits 129, 130) passing through a rotary seal (a rotating bearing 126 and the space inside bearing 126 providing a seal) and rotational shaft (rotating hollow shaft 113) for the drum to deliver the liquid to the nozzle (128). As to claim 5, in Pasad et al the nozzle is located at fixed position within the drum above the bottom of the drum (centered substantially on the center of the axis of rotation of the inner drum). As to claim 6, in Pasad et al's device (see column 7, lines 5-9) nozzles are provided in a plurality (one or more atomizing nozzles) and selected number nozzles is capable of

Art Unit: 1734

being operative for a given textile article load (predetermined quantity of garments). As to claim 7, Pasad et al discloses (see Fig 3) a drum having inwardly protruding ribs (panels 127 and 137) and the nozzles (128 and 138) are mounted on the ribs (panels). As to claim 12, in Pasad et al's apparatus (see column 5, lines 5-6) the container (reservoir) of the dispenser is located below the nozzles (spray heads) and delivery line (feed line) capable of extending from a lower portion of the container (reservoir) to the nozzle. As to claim 15, Pasad et al discloses (see Figs 1-3) a dispenser including valves (20, 111, 131) for selectively dispensing to the nozzle (controlling the flow of treatment agent provided to the nozzle). As to claim 16, Pasad et al (see Figs 1-3) discloses a door (12, 102) in the housing aligned with the open end of the drum. As to claims 20-21, Pasad et al discloses (see Figs 1-3) means for introducing an air flow (gas conduits 16, 106, 129) through the drum and the drum having perforations 31, 117 to flow air through these perforations, exhausting gases through venting conduits 21 and 120. As to claim 24, Pasad et al discloses sewer connection (drain 23 and drain valve 24) however Pasad teaches (see column 5, lines 39-49) these components are not necessary for the practice of his invention.

As to claim 8, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (128, 138) for introducing the liquid on the drum as

Art Unit: 1734

the textile articles are tumbled, and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130 and controlled by control valves and measured by gauges) to dispense a predetermined volume (amount of treatment agent) through the nozzles onto the garments tumbling in the drum as the drum is rotated, wherein the predetermined volume is sufficient to impregnate the garments with the mixture without residual liquid mixture (see example 1, claims 8 and 14 for garments treated with predetermined quantity of liquid without creating residual liquid in the bottom of the drum). Pasad et al also discloses (see Fig 3 and column 7, lines, 20-25 and 42-45) a dispenser including a passage (conduits 129, 130) passing through a rotary seal (a rotating bearing 126 and the space inside bearing 126 providing a seal) and rotational shaft (rotating hollow shaft 113) for the drum to deliver the liquid to the nozzle (128). Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture.

With respect to claim 28, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, a plurality of nozzles (15, 128, 138) for introducing the treatment agent in the form of a fine mist or fog of liquid solutions to the drum as the textile articles are tumbled and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130 and controlled by control valves

Art Unit: 1734

and measured by gauges) to dispense treatment agent through the nozzles onto textile article tumbling in the drum as the drum is rotated. Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture.

As to claim 62, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (128, 138) for introducing the liquid to the drum as the textile articles are tumbled, a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130) to dispense treatment agent through the nozzles onto the garments tumbling in the drum as the drum is rotated, and a connecting line (conduits 129, 130) from the dispenser to the at least one nozzle including a rotary seal (a rotating bearing 126 and the space inside bearing 126 providing a seal). Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture. As to claim 63, Pasad et al discloses (see column 3, lines 25-28, column 4, lines 49-65) nozzle means for generating a fine mist or fog of liquid solutions inside the drum. As to claim 65, in Pasad et al's device (see column 7, lines 5-9) nozzles are provided in a plurality (one or more atomizing nozzles) and selected number nozzles is capable of being operative for a given textile article load (predetermined quantity of garments). As to claim 66, Pasad et al discloses (see Fig 3) a drum having inwardly protruding ribs (panels 127 and 137) and the nozzles (128 and

Art Unit: 1734

138) are mounted on the ribs (panels). As to claim 67, Pasad et al discloses (see Figs 1-3) a dispenser including valves (20, 111, 131) for selectively dispensing to the nozzle (controlling the flow of treatment agent provided to the nozzle).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 3 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 and 62 above and further in view of Giogoli (US 6,557,486). Pasad et al is silent concerning a nozzle mounted to rotate with

the drum. However nozzles mounted to rotate in the rotating drum is known in the art; for instance – Giogoli discloses nozzles mounted on the shaft rotating parallel to the axis of rotating drum. It would have been obvious at the time the invention was to include nozzle mounted to rotate with the drum in Pasad et al to adjust the position of the spraying nozzle corresponding to the treated articles position as taught by Giogoli (see column 1, lines 41-43).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 above and further in view of Adamczyk et al (US 6,296,707). Pasad et al lacks teaching a dispenser including a pressure relief valve. Adamczyk et al discloses (see Fig 10) a pressure relief valve (216) for the vessel 202. It would have been obvious at the time the invention was made to include pressure relief valve in Pasad et al dispenser to vent the reservoir to the atmosphere relieving over-pressurization.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 above and further in view of Lees et al (US 4,311,114). Pasad et al is silent concerning a dispenser for the treatment agent having a delivery line from the low portion of the container to the nozzles. Lees et al discloses (see fig 1) a dispenser having a delivery line (tube 31) from the low portion of the container (tank 1) to the nozzle (applicator 25). It would have been obvious at the time the invention was made to set the dispenser having a delivery line from the low portion

Art Unit: 1734

of the container to the nozzles in Pasad et al to easily empty the liquid product therefrom.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 above and further in view of McNally (US 5,884,418). Pasad et al lacks teaching a dispenser mounted so its lowest point is not below a point at which the liquid mixture is introduced to the drum. McNally discloses (see Fig 1) the lowest point of the dispenser is not below a point at which the liquid mixture is introduced to the drum. It would have been obvious at the time the invention was made to install the dispenser of Pasad et al's device in similar way as shown by McNally as desired.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 above and further in view of Kuhlman et al (US 6,325,305). Pasad et al lacks teaching a dispenser including a solids filter. However, the use of solid filter or strainer is well known in the art to prevent blockage of dispensing nozzles by particulates; for instance – Kuhlman et al discloses (see Fig 2 and column 11, lines 11-18) a filter (56) for the tubing (22) connected to the nozzle (30). It would have been obvious at the time the invention was made to include solid filter along the delivering line of Pasad et al's apparatus to prevent clogging of the dispensing nozzle.

Art Unit: 1734

14. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claim 1 above and further in view of O'Brien (US 3,863,902). Pasad et al lacks teaching wheels mounted on the housing rotating and supporting the drum. O'Brien et al discloses (see Fig 5 and column 4, lines 56-63) thrust wheels (121 and 122) for supporting and rotating the drum. It would have been obvious at the time the invention was made to include (thrust wheels) mounted on the housing rotating and supporting the drum in Pasad et al to keep the drum in position and still permit it rotating as taught by O'Brien.

15. Claims 23, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) as applied to claims 1 and 28 above and further in view of Casey (US 4,369,383). Pasad et al lacks teaching a drum mounted for alternate rotation in clockwise and counterclockwise directions (the drum rising about 2 o'clock and 10 o'clock position). Casey teaches (see column 10, lines 4-12) a drum rotating clockwise or counterclockwise depending the positions of the opening side of the coating drum. It would have been obvious at the time the invention was made to rotate the drum in clockwise or counterclockwise in Pasad et al as desired depending on the positioning of the opening side of the drum.

16. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) in view of Adamczyk et al (US 6,296,707), Lees et al (US 4,311,114), McNally (US 5,884,418) and Kuhlman et al (US 6,325,305). Pasad et al discloses (see

Art Unit: 1734

Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid to the drum as the textile articles are tumbled, and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130 and controlled by control valves and measured by gauges) to contain and dispense a predetermined volume (amount of treatment agent) through the nozzles onto the garments tumbling in the drum as the drum is rotated, wherein the predetermined volume is sufficient to impregnate the garments with the mixture without residual liquid mixture (see example 1, claims 8 and 14 for garments treated with predetermined quantity of liquid without creating residual liquid in the bottom of the drum). Pasad et al's dispenser also includes a sealable opening (liquid impermeable seal in the space of the bearing to pass the conduits 105, 106, 129, 130 for treatment agent through. Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture. Pasad et al lacks teaching a pressure relief valve, a delivery line having a solid filter extending from a low portion of the container and a dispenser's lowest point is not below a point at which the liquid mixture is introduced to the drum. Adamczyk et al discloses (see Fig 10) a pressure relief valve (216) for the vessel 202. It would have been obvious at the time the invention was made to include pressure relief valve in Pasad et al dispenser to vent the reservoir to the atmosphere relieving over-

Art Unit: 1734

pressurization. Lees et al discloses (see fig 1) a dispenser having a delivery line (tube 31) from the low portion of the container (tank 1) to the nozzle (applicator 25). It would have been obvious at the time the invention was made to set the dispenser having a delivery line from the low portion of the container to the nozzles in Pasad et al to easily empty the liquid product therefrom. McNally discloses (see Fig 1) the lowest point of the dispenser is not below a point at which the liquid mixture is introduced to the drum. It would have been obvious at the time the invention was made to install the dispenser of Pasad et al's device in similar way as shown by McNally as desired. Additionally, Kuhlman et al discloses (see Fig 2 and column 11, lines 11-18) a filter (56) for the tubing (22) connected to the nozzle (30). It would have been obvious at the time the invention was made to include solid filter along the delivering line of Pasad et al's apparatus to prevent clogging of the dispensing nozzle.

17. Claims 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) in view of Berger et al (US 3,401,052). As to claim 31, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid o the drum as the textile articles are tumbled, a housing (10, 101), a door (12, 102) in the housing aligned with

Art Unit: 1734

the open end of the drum and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130 and controlled by control valves and measured by gauges) to contain and dispense a predetermined volume (amount of treatment agent) through the nozzles onto the garments tumbling in the drum as the drum is rotated, wherein the predetermined volume is sufficient to impregnate the garments with the mixture without residual liquid mixture (see example 1, claims 8 and 14 for garments treated with predetermined quantity of liquid without creating residual liquid in the bottom of the drum). Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture. Pasad et al lacks teaching an array of nozzles. Berger et al discloses an array of spray nozzles (122) in the drum (18) for treating fibrous articles. It would have been obvious at the time the invention was made to include an array of spray nozzles in Pasad et al to direct solution at the articles within the drum over a predetermined interval as taught by Berger et al (see column 6, lines 29-47). As to claim 32, Pasad et al discloses (see column 3, lines 25-28, column 4, lines 49-65) nozzle means for generating a fine mist or fog of liquid solutions inside the drum. As to claims 33-34, Pasad et al discloses (see Figs 1-3) means for introducing an air flow (gas conduits 16, 106, 129) through the drum and the drum having perforations 31, 117 to flow air through these perforations, exhausting gases through venting conduits 21 and 120. Claims 56-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) in view of Berger et al (US 3,401,052). As to claim 56, Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for

Art Unit: 1734

treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid on the drum as the textile articles are tumbled, a housing (10, 101), a door (12, 102) in the housing aligned with the open end of the drum and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130) to contain and dispense treatment agents through the nozzles onto the garments tumbling in the drum as the drum is rotated. Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture. Pasad et al lacks teaching an array of nozzles. Berger et al discloses an array of spray nozzles (122) in the drum (18) for treating fibrous articles. It would have been obvious at the time the invention was made to include an array of spray nozzles in Pasad et al to direct solution at the articles within the drum over a predetermined interval as taught by Berger et al (see column 6, lines 29-47). As to claim 57, Pasad et al nozzle (see column 3, lines 25-28, column 4, lines 49-65) is configured to make the liquid mixture into fog or mist. As to claims 58-59 and 61, Pasad et al discloses (see Figs 1-3) means for introducing an air flow (gas conduits 16, 106, 129) through the drum and the drum having perforations 31, 117 to flow air through these perforations, and recovering solvent from the air through solvent recovery (venting conduits 21 and 120).

Art Unit: 1734

18. Claims 73-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) in view of Shim et al (US 6,332,924), Swindall (US 3,507,423), Kuhlman et al (US 6,325,305) and Berger et al 3,401,052). Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid on the drum as the textile articles are tumbled, a housing (10, 101), a door (12, 102) in the housing aligned with the open end of the drum and a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130) to dispense treatment agents through the nozzles onto the garments tumbling in the drum as the drum is rotated. Pasad et al teaches a pump to pressurize the treatment agent in the reservoir (see column 5, lines 10-12). However Pasad et al lacks teaching an air operated diaphragm pump controlled by a stop valve, the pump including a recirculation line from the tank and back to the tank and a T line connections. Shim et al discloses (see column 4, lines 45-57, column 6, lines 13-19 and Fig 2) a dispensing device having an air operated diaphragm pump 56 in communication with a stop valve (control valve 102) and teaches (see Fig 1) a check valve (4) connected to a nozzle (6). It would have been obvious at the time the invention was made to include an air operated diaphragm pump controlled by a stop valve in the dispensing device of Pasad et al to easily repair and accurately control the

Art Unit: 1734

amount and pressure of the dispensed liquid as taught by Shim et al (see column 2, lines 16-20). Swindall discloses a system for dyeing of textile materials having a pump (8) including a recirculation line from the tank (12) and back to the tank and Berger et al discloses (see Fig 1) a T line connection (93). It would have been obvious at the time the invention was made to include a pump including a recirculation line from the tank and back to the tank in Pasad et al to control the recirculation system in discharging to the treatment agent into the tank as the pump stopped the valve such as when the treatment operation is terminated (see column 3, lines 20-24). As to the T-line connection, it is a matter of design choice. Berger et al show a T-line connection and one in the art looking at Berger et al device would install a T- line connection. As such, it would have been obvious at the time the invention was made to include T line connections in Pasad et al as modified by Shim et al and Swindall as desired. As to a solid strainer, Pasad et al lacks teaching a dispenser including a solids strainer. However, the use of solid filter or strainer is well known in the art to prevent blockage of dispensing nozzles by particulates; for instance – Kuhlman et al discloses (see Fig 2 and column 11, lines 11-18) a filter (56) for the tubing (22) connected to the nozzle (30). It would have been obvious at the time the invention was made to include solid filter along the delivering line of Pasad et al's apparatus to prevent clogging of the dispensing nozzle. Additionally, Pasad et al device is capable of dispensing a liquid insect repellent mixture.

Art Unit: 1734

19. Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasad et al (US 5,461,742) in view of McNally (US 5,884,418) and Kuhlman (US 6,325,305). Pasad et al discloses (see Figs 1-3, columns 3-4, lines 60-67 and 1-10 respectively, column 5, lines 3-20, column 8, lines 2-59) an apparatus for treating textile articles (garments) with a liquid mixture comprising a drum (112) rotatable about generally horizontal axis for receiving and tumbling textile articles (garments), a drive (pulley 115 connected to a motor by belt or shaft drive) to rotate the drum about the horizontal axis, at least one nozzle (15, 128, 138) for introducing the liquid to the drum as the textile articles are tumbled, a dispenser (pressurized reservoir in communication with the nozzles through conduits 105, 106, 129, 130) to hold and dispense treatment agents through the nozzles onto the garments tumbling in the drum as the drum is rotated and a pump to pressurize the treatment agent in the reservoir (see column 5, lines 10-12). The connecting line including a pump communicating with the tank is not shown in Pasad et al. McNally discloses a pump communicating with a reservoir 10 and a nozzle (14). It would have been obvious to connect the pump to the tank in Pasad et al to dispense the liquid out by pressurizing the pump. Pasad et al lacks teaching a dispenser including a supplemental line clearer. However, the use of line clearer (line filter) is well known in the art to prevent blockage of dispensing nozzles by particulates; for instance – Kuhlman et al discloses (see Fig 2 and column 11, lines 11-18) a filter (56) for the tubing (22) connected to the nozzle (30). It would have been obvious at the time the invention was made to include solid filter along the delivering line of Pasad et

Art Unit: 1734

al's apparatus to prevent clogging of the dispensing nozzle. Pasad et al device is also capable of dispensing a liquid insect repellent mixture.

Allowable Subject Matter

20. Claims, 26-27, 68-72 are allowed.

21. Claims 22, 35 and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

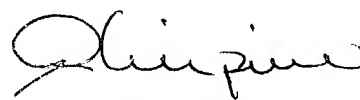
22. The following is a statement of reasons for the indication of allowable subject matter: As to claims 22, 26-27, 35 and 60, arts of record teaches a drying process following after the textile is treated in the impregnating drum (see Fig 1, McNally for the second drying machine 20 and Pasad et al, column 3, lines 63-64). Prior art of record does not disclose or suggest an apparatus for treating textile articles with a liquid insect repellent mixture comprising, among others, including heated air inlet for delivering heated air so the textile articles may be dried after impregnation in the same device. As to claims 68-72, prior art of record does not disclose or suggest an apparatus for treating textile articles with a liquid insect repellent mixture comprising, among others, a connecting line from the dispenser to the nozzle including a duty cycle modulator to cause liquid mixture to be delivered to the nozzles only when the nozzle is at an upper part of the path.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YTT


RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700